WHAT IS CLAIMED IS:

1. A Zhu-Yin input method to input Zhu-Yin phonetic symbol string into a computer, said method consists of a Zhu-Yin Keypad, an R-1 refining control window panel, and an R-2 refining control window panel. A sequence of mouse operations called Press-Touch-Release (PTR) operation is designed on the Zhu-Yin Keyboard and the R-1 and R-2 panels to enter valid phonetic symbol strings of the Zhu-Yin system.

2. The method of claim 1, wherein said Zhu-Yin Keypad contains the following keys: 22 C-set keys of the 21 consonant keys "ㄅ" to "ㄙ" plus a blank key□, the 4 H-set keys of the 3 transition vowel keys {ㄧ,ㄨ,ㄩ} plus a blank key□, the 14 V-set keys of the vowel keys "ㄚ" to "ㄦ" plus a blank key □, five T-set keys of the tonal keys { • ,--, ˊ, ˇ, ˋ }, and several function keys. The phonetic symbol keys and tonal keys are grouped in to C, H, V, and T sections and placed consecutively from top to bottom on the keypad. The keys are further grouped and arranged as follows.

   a. The 22 C-set keys are gathered into six groups as [ㄅㄆㄇㄈ, ㄉㄊㄋ ㄌ,ㄍㄎㄏ,ㄐㄑㄒ,ㄓㄔㄕㄖ,ㄗㄘㄙ□]. The six groups are arranged from top to bottom and from left to right in the C section area.

   b. The 4 H-set keys [ㄧㄨㄩ□] are arranged in a row and placed between the C section and the V section to facilitate mouse operations.

   c. The 14 V-set keys are gathered into three groups as [ㄚㄛㄜㄝ,ㄞㄟㄠ ㄡ,ㄢㄣㄤㄥㄦ□]. The three groups are arranged from left to right in the V section area.

d. The 5 T-set keys [• ,--, ˊ , ˇ , ˋ] are arranged in a row and placed below the V section to facilitate mouse operations.

e. The keys within each group of the C, H, V, and T sections are arranged in the standard Zhu-Yin symbol order inside the group. Spaces have been reserved between neighboring groups.

f. The function keys include the following four:

i.  : The key to indicate that the current keypad is using Zhu-Yin system. When clicked, the keypad will be changed to Pin-Yin mode.

ii.  : This button indicates that the text exported from the system will be in Unicode codes. When clicked, the text exported will change to use other coding schemes.

iii.  : A button to select between the Automatic-Firing and the Manual-Control key-in mode. When in the Automatic-Firing mode, the focusing point in a sentence editing buffer will advance to the next word automatically once the mouse button has been released on a key. When in Manual-Control mode, the focusing point will be manually changed by the user.

iv.  : A simple editing button to erase the phonetic symbol string of the current word.

3. The method of claim 1, wherein said R-1 refining control window panel contains a label and an associated subset of the H-set. The label and the subset of the H-set are defined as follows.

a. The label must be a symbol in the C-set. The subset associated with the label is the set of all the H symbols that can follow the label symbol in a valid Zhu-Yin symbol string.

b. If the label is the blank symbol □, the subset is the set of all the H symbols that is the starting symbol of a valid Zhu-Yin symbol string, which is exactly the H-set.

4. The method of claim 1, wherein said R-2 refining control window panel contains a set of keys of the V-set. An R-2 panel will pop up on the screen when a key in an R-1 panel has been selected. Therefore, every R-2 panel is associated with the label of an R-1 panel and an H symbol in the panel. A subset of the keys in R-2 is activated and the remaining keys are de-activated. A key in R-2 is activated if its symbol can follow the associated label symbol and the selected H symbol in R-1 in a valid Zhu-Yin symbol string. The allocation of the V-set keys is kept the same as the V-set keys in the Zhu-Yin Keypad to reduce flickering effect.

5. The method of claim 1, wherein said Press-Touch-Release (PTR) sequence of mouse operation is performed to select the C, H, and V components of a Zhu-Yin phonetic symbol string according to the following rules.

a. The user presses a first key in the Zhu-Yin Keypad to select a C component as well as launch an associated R-1 panel.

b. The user moves the cursor to touch a key in the R-1 panel to select an H symbol as well as launch an associated R-2 panel.

c. The user releases the mouse button with the cursor on an activated key in R-2 to select the V component.

d. Depending on the phonetic symbols selected in step a and step b, blank symbols may be determined to fill in for the C or H components.

e. At the instant when the user releases the mouse button with the cursor on a key, the selected Zhu-Yin symbol string is entered into the computer.

f. The user may release the mouse button after pressing a key in step a or after the touching of the cursor with a key in step b to interrupt the PTR operation and enter the intermediate result, which is always a leading string of a complete valid Zhu-Yin symbol string.

g. Means can be implemented to allow the user to retract from each of the previous mouse action.

6. A Pin-Yin input method to input Pin-Yin phonetic symbol string into a computer, said method consists of a Pin -Yin Keypad, an R-1 refining control window panel, and an R-2 refining control panel. A sequence of mouse operations called Press-Touch-Release (PTR) operation is designed on the Pin -Yin Keyboard and the R-1 and R-2 panels to enter valid phonetic symbol strings of the Pin -Yin system.

7. The method of claim 6, wherein said Pin-Yin Keypad contains 26 alphabet keys, from A to Z, five tonal keys { • ,--, ˊ, ˇ, ˋ }, and several function keys.

a. The 26 alphabet keys are gathered into eight groups as [ABCD, EFG, HIJ, KLMN, OPQ, RST, UVW, XYZ].

b. The eight groups above are arranged in the alphabetical order and placed from left to right, top to bottom onto the keypad with spaces between neighboring groups.

c. The 5 T-set keys [• ,--, ˊ , ˇ , ˋ] are arranged in a row or in two columns and placed below the alphabet key groups to facilitate mouse operations.

d. The keys within each alphabet key group and the tonal key group are arranged in the standard Pin-Yin symbol order inside the group. Spaces have been reserved between neighboring groups.

e. The function keys include the following five:

i.  : The key to indicate that the current keypad is using Pin -Yin system. When clicked, the keypad will be changed to Zhu -Yin mode.

ii.  : This button indicates that the text exported from the system will be in Unicode codes. When clicked, the text exported will change to use other coding schemes

iii.  : A button to select between the Automatic-Firing and the Manual-Control key-in mode.

iv.  : A simple editing button to erase the phonetic symbol string of the current word.

v.  : A button used to end the typing of the Pin-Yin phonetic symbol string of the current word when the system is using Pin-Yin phonetic system and in Manual-Control key-in mode.

8. The method of claim 6, wherein a said R-1 refining control window panel contains a label and a set of keys associated with the label string. The label and the corresponding set of keys are defined as follows.

a. The label is a string of the first string (ζ-) set of {A, B, C, CH, D, E, F, G, H, JI, JU, K, L, M, N, O, P, QI, QU, R, S, SH, T, W, XI, XU, Y, Z, ZH}.

b. Associated with each first string is a set of second string (σ-), which is the set of symbols that can follow the first string in a valid symbol string of the Pin-Yin phonetic system.

9. The method of claim 6, wherein said R-2 refining control window panel contains a set of keys. An R-2 panel will pop up on the screen when a key in an R-1 panel has been selected. Therefore, an R-2 panel is associated with the label string and a ζ key symbol of an R-1 panel. A key is created in R-2 for each phonetic symbol string that can follow the associated first (ζ-) string and the second (σ-) string in a valid phonetic string in the Pin-Yin system. The set of strings of the keys in the R-2 panel is called the set of the third string (τ-).

10. The method of claim 6, wherein said Press-Touch-Release (PTR) sequence of mouse operations is performed to select the ζ, σ, and τ components of the Pin-Yin phonetic symbol string according to the following rules.

a. The user presses a key in the Pin -Yin Keypad to select the ζ string as well as launch an associated R-1 panel. A ζ string is selected if its leading symbol is the key symbol selected. In case that two ζ components having the same leading key symbol, one of the R-1 panel will be placed at the top of the Pin -Yin Keypad while other R-1 panel will be placed at the bottom. There can be at most two ζ strings containing the same heading symbol.

b. The user moves the cursor to touch a key in the R-1 panel to select an σ string (symbol) as well as launch an associated R-2 panel.

c. The user releases the mouse button with the cursor on a key in R-2 to select the τ component.

d. At the instant when the user releases the mouse button the selected Pin-Yin symbol string (ζ σ τ) is entered into the computer.

e. The user may release the mouse button after pressing a key in step a or after the touching of the cursor with a key in step b to interrupt the PTR operation and enter a leading string of a complete valid Pin-Yin symbol string.

f. Means can be implemented to allow the user to retract from each of the previous mouse action.

11. A cascade Multi-Window contains several over-lapped window pages with the following properties:

a. The window pages are rectangular and are of the same size.

b. The window pages are arranged in a cascade going from the lower- left position to the higher- right position in the Multi-Window.

c. At any time one of the pages in the Multi-Window is the topmost page on the screen.

d. Every window page in the Multi-Window has an exposed region on the screen. Pages lower than the topmost page show an L-shaped region on the screen. Pages higher than the topmost page show an inversed L-shaped region on the screen. These L-shaped and inversed L-shaped regions surround the topmost page on the screen. This relationship will be maintained when a page is brought to be the topmost page of the Multi-Window.

e. When the mouse is moved onto the exposed region of a page in the Multi-Window, that page will be brought to the top of the Multi-Window, and becomes the topmost page on the screen. This allows the user to browse the pages sequentially in both the ascending and descending directions of the cascade Multi-Window without mouse clicking operations.

f. The pages in the Multi-Window may contain buttons to display Chinese words, phrases and punctuation symbols. A user may browse within a page among these buttons. A word, a phrase, or a punctuation symbol will be selected by the mouse button-up event.

g. A word, a phrase, or a punctuation symbol selected from a page in the Multi-Window will flow to the Sentence Editing Buffer, and be appended at the end of the current sentence that is being composed in the Sentence Editing Buffer. It will also flow to an application program if the valve between the Multi-Window and the application program is open.

12. A platform to implement a Chinese input method, said platform consists of the following components:

A Keypad of Claim 1 or Claim 6, a cascade Multi-Window of Claim 11, a Sentence Editing Buffer, an Attribute Viewing Window, and a Text Accumulation Window.

13. The platform of claim 12, wherein said Sentence Editing Buffer is a window containing a fixed number of keys (buttons). These keys are places to show the words of a sentence. A sentence being composed will be shown in the Sentence Editing Buffer. The key of a word will show the character if it is

b. From the Keypad to the R-1 refining control panel.

c. From the R-1 refining control panel to the cascade Multi-Window.

d. From the R-1 refining control panel to the R-2 refining control panel.

e. From the R-2 refining control panel to the cascade Multi-Window.

17. The platform of claim 12, wherein said platform provides a user the following data flow paths between the windows:

a. From the Keypad to the Sentence Editing Buffer.

b. From the cascade Multi-Window to the Sentence Editing Buffer.

c. From the Sentence Editing Buffer to the text accumulation window.

18. The platform of claim 12, wherein said platform provides a user the following data flow control valves between the internal windows to an external application program:

a. From the cascade Multi-Window to an external application program.

b. From the Sentence Editing Buffer to an external application program.

c. From the Text Accumulation Window to an external application program.

19. A Chinese input method implemented on the platform of claim 12, said method has the following properties:

a. A user uses a two-phase procedure to generate sentences. The procedure consists of a key-in phase and an editing phase.

b. In the key-in phase, a user may select words or phrases from the cascade Multi-Window in sequence to compose a sentence. He may also use the Keypad to key-in phonetic symbol strings to specify the words or phrases instead.

c. In the editing phase, helped by the system, the user will scan from left to right to find the places where character information has not yet been chosen and then fill in actual words by selecting words or phrases from the cascade Multi-Window.

d. A frequency-based multi-level strategy is used by the system to classify phrases to present to the user in the cascade Multi-Window. Different phrase sets are shown in the Multi-Window at different stages in the Two-Phase Sentence Generation Procedure.

e. The phrases are classified into four classes: the most-frequently used, very-frequently used, commonly used, and rarely used. Rarely used phrases are accessible explicitly via a button in the phrase presentation.

f. A user can get a most-frequently used phrase from the Multi-Window without performing any mouse activities in the Keypad.

g. The very frequently used phrases are associated with the phonetic symbols of the phonetic system. The association can be practiced by partitioning the phrases according to the first symbols of the phonetic symbol strings of the first word of the phrases. A user may select a very frequently used phrase set by press on the associated key.

20. The method of claim 10, wherein said key-in phase of the Two-Phase Sentence Generation Procedure has the following operations and properties:

a. A user either selects words or phrases from the cascade Multi-Window or key-in phonetic symbol strings as the attributes of the phrase words to compose a sentence.

b. The symbol string keyed in can be either a complete phonetic symbol string, including the tonal symbol, or a leading portion of the complete string.

c. The user can elect to use either the Manual-Control Mode or the Automatic-Firing Mode to control the word of focusing in the Sentence Editing Buffer. In the Manual-Control Mode, the user controls the focus location manually. In the Automatic-Firing Mode, the system advances the focus to the next word automatically when the user releases the mouse button in a PTR operation for the current word.

d. The user can go to the Multi-Window to select a word to specify the matching condition for a phrase.